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LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 267

MEAT EXTRACTS



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OTTAWA, Sept. 10, 1913.

WM. HIMSWORTH, Esq.,
Deputy Minister,
Inland Revenue.

SIR,—I beg to hand you a report of eighty (80) samples purchased throughout Canada, as Meat Extracts, in February and March of last year. The necessity of taking in hand the analysis of articles which could be less readily preserved, or whose examination was more pressingly demanded, caused this collection to be held over for the long period of eighteen months. While it is believed that the nature of the article, the care observed in its packing, and in its preservation while in our possession, have prevented any important deterioration, it is but right to say that the analytical results now furnished you must be regarded rather as a study of the subject of Meat Extracts, than as a legal inspection of the article as found on the market.

Our last published work on Meat (Beef) Extracts was issued in April, 1899, as Bulletin No. 63, and was as complete a presentation of the subject as was, at that time, possible. Since the date named a great deal of investigatory work has been put on record both by The United States of America (Bureau of Chemistry) and by European laboratories. The Meat Extracts of Commerce, so far as these possess real value, are found to be characterized in such a way as to make it possible to establish standards of value, below which an Extract cannot be recognized as genuine. An Order-in-Council dated 24th October, 1910, and passed conformably to Sec. 26 of the Adulteration Act, defines Meat Extracts, and allied products, as below:—

C.—MEAT EXTRACTS, MEAT PEPTONES, GELATIN, ETC.

1. Meat extract is the product obtained by extracting fresh meat with water and concentrating the liquid portion by evaporation after the removal of fat, and contains not less than seventy-five (75) per cent of total solids of which not over twenty-seven (27) per cent is ash, and not over twelve (12) per cent is sodium chloride (calculated from the total chlorine present), not over six-tenths (0.6) per cent is fat and not less than eight (8) per cent is nitrogen. The nitrogenous compounds contain not less than forty (40) per cent of meat bases and not less than ten (10) per cent of kreatin and kreatinin.

2. Fluid meat extract is identical with meat extract except that it is concentrated to a lower degree and contains not more than seventy-five (75) and not less than fifty (50) per cent of total solids.

3. Bone extract or stock is the product obtained by extracting clean, fresh, trimmed bones, of animals in good health at the time of slaughter, with boiling water and concentrating the liquid portion by evaporation, after removal of the fat, and contains not less than seventy-five (75) per cent of total solids.

4. Fluid bone extract is identical with bone extract except that it is concentrated to a lower degree and contains not more than seventy-five (75) and not less than fifty (50) per cent of total solids.

5. Meat juice is the fluid portion of muscle fibre, obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble proteids. The solids contain not more than fifteen (15) per cent of ash, not more than two and five-tenths (2.5) per cent of sodium chloride (calculated from the total chlorine present,) not more than four (4) nor less than two (2) per cent of phosphoric acid (P_2O_5), and not less than twelve (12) per cent of nitrogen. The nitrogenous bodies contain not less than thirty-five (35) per cent of coagulable proteids and not more than forty (40) per cent of meat bases.

6. Peptones are products prepared by the digestion of proteid material by means of enzymes or otherwise, and contain not less than ninety (90) per cent of proteoses and peptones.

It will be seen that Meat Extract is found in the market either as a solid mass, usually in cubes; as what may be called the normal Extract containing about 75 per cent of solids; or as a fluid Meat Extract, with solids below 75 per cent. Our Standards require a minimum of 50 per cent. Of the present collection we find:—

Solid Meat Extracts.....	12
Normal " ".....	25
Fluid " ".....	42
Meat Juice.....	1
	—
	80

The ash, representing mineral matters of the meat and added common salt, should not exceed 27 per cent of the total solids; and the salt (sodium chloride) should not exceed 12 per cent.

In all the solid Extracts, the ash and salt exceed the limit named by Our Standards for Meat Extract. Perhaps these Standards should not be held to apply to Meat Extract in the solid form. This is a point for further consideration.

Fat is required to be less than six-tenths of one per cent (0.6) of the total solids. The Petrolie Ether Extract shown in the table, is essentially fat, and is decidedly excessive in 17 samples. With few exceptions these are solid Extracts, and it is possible that the limit for fat may have to be reconsidered in the case of this kind of Extract.

The most important datum is the content of nitrogen. Nitrogen is required to constitute at least 8 per cent of the total solid matter of the extract. This requirement is met by all but four of the samples reported. Two of these are not sold as Meat Extracts (46159, 50139), but as Concentrates of Meat and Vegetables. No. 47014 is slightly lower than Standard requirements, and 39056 is distinctly below the Standard. Nitrogen is present in various combinations, the characteristic, and practically the only ones giving value to these meat extracts being the group known as 'Meat Bases.' These are required to amount to at least 40 per cent of the total nitrogenous compounds.

Many of the samples which meet requirements as to total nitrogen fall short of the Standard for Meat Extracts in this respect. This is due to the fact that proteid

nitrogen, in form of pulverized beef, has been incorporated, as shown by the large percentage of nitrogen in insoluble compounds. While the true Meat Extracts show less than one-half of one per cent. of nitrogen in insoluble forms, the samples in question give from one to two per cent. of insoluble nitrogen.

The Kreatin and Kreatinin should amount to at least one-fourth of the total meat bases. The minimum limit is greatly exceeded in the genuine Extracts; but is not reached in those of low grade. In order that this fact may be better shown, I have arranged in subsidiary tables the samples herein reported, placing together those representing the same brand. It will be noted that most of these brands are manufactured with intelligence and care, as shown by their mean composition and by the uniformity obtaining among the samples analysed. The notes accompanying subsidiary tables make it unnecessary to say anything more than that this work will be of use to us in further investigation of the subject; and I beg to recommend its publication as Bulletin No. 267.

I have the honour to be, Sir,

Your Obedient Servant,

A. MCGILL,

Chief Analyst.

SUBSIDIARY TABLES.

ARMOUR'S EXTRACT.

Number of Sample.	Water.	Solids.	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
40834...	21.75	78.25	0.75	19.76	5.19	8.764	0.273	4.557	3.934	0.78	0.48
45617...	21.65	78.35	1.00	19.40	4.49	8.764	0.322	4.556	3.906	0.81	0.42
46160...	22.40	77.60	1.00	19.20	4.91	8.540	0.189	4.359	3.962	0.70	0.60
47895...	23.30	76.70	0.65	20.50	5.11	8.792	0.202	4.726	3.864	0.67	0.53
48100...	23.90	76.10	1.00	19.30	5.23	8.764	0.266	4.886	3.612	0.62	0.61
49111...	21.35	78.35	0.75	19.80	5.19	8.204	0.315	4.501	3.388	0.60	0.74
49267...	22.25	77.75	0.90	20.55	5.58	8.484	0.364	4.480	3.640	0.65	0.55
49538...	24.30	75.70	1.10	19.00	4.93	8.456	0.231	4.725	3.500	0.73	0.71
49586...	21.50	78.50	1.05	19.30	5.72	8.428	0.263	4.582	3.640	0.65	0.68
50136...	21.00	79.00	0.85	19.40	5.28	8.596	0.308	4.480	3.808	0.57	0.62
38313...	23.50	76.50	1.05	20.30	5.32	8.260	0.399	4.194	3.667	0.63	0.60
Mean...	22.41	77.56	0.92	19.68	5.17	8.541	0.279	4.542	3.720	0.67	0.50

Sold as (normal) meat Extract. Fat is very slightly in excess of standard. Other wise requirements of standards are fully met.

BEEFENE.

Number of Sample.	Water.	Solids.	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
39052...	45.90	54.10	1.00	14.10	8.12	5.488	1.764	2.384	1.340	0.45	0.13
38312...	45.25	54.75	1.35	14.62	8.39	5.684	1.361	3.021	1.302	0.53	0.10
Mean...	45.57	54.43	1.17	14.36	8.25	5.586	1.562	2.703	1.321	0.49	0.12

A Fluid Meat Extract. Fat slightly in excess, also salt. Meat base nitrogen somewhat low.

BOVIN CUBES.

Number of Sample.	Water	Solids.	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as				Creatinin.	Creatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat base).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
50139...	7.00	93.00	2.60	43.70	19.63	3.324	0.105	1.469	1.750	0.21	0.18

A solid meat Extract. Perhaps the standards for normal meat extract should not apply. Ash, salt and fat are decidedly higher than these standards permit. Total nitrogen is below standard for normal meat extract; meat base nitrogen is proportionately up to requirement. Vegetable matter is acknowledged to be present.

BOVRIL EXTRACT.

Number of Sample.	Water.	Solids.	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as				Creatinin.	Creatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat base).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.	p.c.	p.c.	p.c.	p.c.
47013...	45.52	54.48	0.55	14.98	8.60	5.432	1.015	2.401	2.016	0.54	0.26
48079...	45.25	54.75	0.75	14.18	9.00	5.466	1.029	2.457	1.974	0.61	0.14
49357...	45.15	54.85	0.95	14.43	8.44	5.208	1.085	2.289	1.834	0.54	0.30
49359...	41.05	58.95	1.05	18.15	9.10	5.104	1.057	2.401	1.946	0.54	0.36
47892...	45.45	54.55	0.90	14.15	9.30	5.104	1.062	2.492	1.960	0.53	0.27
38311...	43.15	56.85	0.60	14.00	8.34	5.152	1.001	1.897	2.254	0.60	0.23
45619...	44.23	55.77	0.55	14.95	8.61	5.152	1.078	2.072	2.002	0.56	0.39
50138...	43.10	56.90	0.65	15.33	9.11	5.376	1.106	2.212	2.058	0.64	0.23
40831...	41.24	58.76	0.95	14.35	8.83	5.348	1.155	2.193	2.000	0.62	0.14
49537...	45.15	54.85	1.05	14.90	8.35	5.040	1.085	2.135	1.820	0.67	0.38
49539...	41.90	58.10	0.75	14.48	8.90	5.040	1.099	2.009	1.932	0.64	0.30
49540...	44.95	55.05	1.00	15.20	8.88	5.572	1.057	2.639	1.876	0.57	0.26
44137...	44.75	55.25	1.00	14.99	8.39	5.628	1.036	2.632	1.960	0.62	0.27
48601...	40.25	59.75	0.75	14.36	8.71	5.124	1.008	2.156	1.960	0.57	0.49
39053...	40.75	59.25	0.65	15.23	8.63	5.208	0.994	2.310	1.904	0.73	0.16
49113...	43.00	57.00	0.80	15.67	9.15	5.656	1.085	2.550	2.021	0.64	0.24
49615...	44.70	55.30	0.85	15.30	8.90	5.628	1.090	2.498	2.040	0.76	0.28
Mean...	43.51	56.49	0.75	14.91	8.77	5.351	1.063	2.331	1.957	0.61	0.30

A Fluid Meat Extract. Salt slightly high. Meat base nitrogen slightly low.

BRANDS ESSENCE.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
38310 . .	90.30	9.70	0.90	1.40	0.98	1.652	0.044	0.343	1.265	Trace	Trace.

Sold as Essence of Beef or Meat Juice, and meets requirements of Standard.

DAVIES EXTRACT.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
49358 . . .	20.80	79.20	0.25	15.12	8.32	9.184	0.196	5.088	4.900	1.30	0.80

Judged as normal Beef Extract. Fully meets standard requirements.

GILMOUR EXTRACT.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
39056 . .	40.75	59.25	1.50	22.60	6.70	2.968	0.378	2.666	0.924	0.35	0.14

A Fluid Beef Extract. Ash slightly high; also fat. Total nitrogen and meat base nitrogen very low.

IVELCON--CUBES.

Number of Sample.	Water.	Solids.	Petroleum Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as					Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat bases).	Kreatinin		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
46159. .	9.25	90.75	4.45	53.65	23.93	2.996	0.133	0.973	1.890	0.33	0.11	

A Solid Meat Extract. Perhaps the standards for normal meat extract should not apply. Ash, salt and fat are decidedly higher than these standards permit. Total nitrogen is below standard for normal meat extract; meat base nitrogen is proportionately up to requirement. The presence of vegetables is acknowledged.

LEMCO.

Number of Sample.	Water.	Solids.	Petroleum Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as					Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat bases).	Kreatinin		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
46156. .	24.80	75.20	0.55	18.00	3.05	10.640	0.364	5.264	5.012	0.70	1.50	
48603. .	24.50	75.50	0.85	18.50	2.68	9.834	0.402	4.610	4.872	0.72	1.27	
47012. .	24.40	75.60	0.50	18.20	3.07	10.388	0.434	5.096	4.858	0.72	1.47	
37375. .	24.20	75.80	0.35	18.70	2.74	10.360	0.392	4.942	5.026	0.75	1.76	
Mean.	24.44	75.52	0.56	18.35	2.88	10.318	0.398	4.978	4.942	0.72	1.50	

Sold as (normal) Beef Extract. Fully meets requirements of the standards.

NA-DRU. CO.—EXTRACT.

Number of Sample.	Water.	Solids.	Petroleum Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as					Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat bases).	Kreatinin		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
45620. .	24.20	75.80	0.50	22.40	13.69	7.000	0.125	4.453	2.422	0.18	0.15	
47884. .	24.15	75.85	0.75	21.90	13.70	6.692	0.441	3.661	2.590	0.17	0.05	
48098. .	24.05	75.95	1.20	22.01	13.88	6.524	0.326	3.622	2.576	0.20	0.00	
48488. .	25.90	74.10	0.40	22.75	14.09	7.224	0.658	4.466	2.100	0.13	0.15	
Mean.	24.57	75.43	0.66	22.26	13.90	6.860	0.387	4.050	2.423	0.17	0.09	

Sold as (normal) Beef Extract. Salt slightly in excess and nearly meets requirements in total and meat base nitrogen. The Kreatin and Kreatinin are, however, distinctly deficient in amount.

NUTRI-OX EXTRACT.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
38314 ...	45.35	55.65	2.35	16.30	9.69	4.340	0.546	1.302	2.492	0.50	0.22

A Fluid Beef Extract. Fat and salt are somewhat high. Otherwise meets the standards.

OXO-CURES.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
47015 ...	11.15	88.85	3.35	34.90	26.50	7.280	1.628	3.328	2.324	0.53	0.55
49361 ...	11.10	88.90	2.90	35.05	25.77	7.868	1.778	3.511	2.576	0.57	0.38
48087 ...	10.46	89.55	3.45	35.05	24.43	7.616	1.610	3.346	2.660	0.70	0.38
50137 ...	11.95	88.05	3.55	34.80	24.88	7.924	1.624	3.794	2.506	0.62	0.32
47011 ...	11.00	89.00	3.00	34.55	25.07	7.672	1.631	3.437	2.604	0.67	0.38
45616 ...	10.10	88.90	3.25	33.50	25.27	7.476	1.603	3.283	2.590	0.59	0.56
46158 ...	10.65	89.35	3.70	34.05	24.87	7.672	1.582	3.486	2.604	0.67	0.45
48602 ...	12.05	87.95	3.85	35.20	24.74	7.476	1.582	3.612	2.282	0.70	0.44
48202 ...	10.75	89.25	3.50	35.05	25.62	7.420	1.589	3.311	2.520	0.70	0.34
Mean ...	11.02	88.98	3.39	34.68	25.24	7.600	1.625	3.456	2.519	0.63	0.42

A solid meat extract. Perhaps the standards for normal meat extract should not apply. Ash, salt and fat are decidedly higher than these standards permit. Total nitrogen meets standard requirements. Meat base nitrogen is relatively low.

OXO FLUID BEEF.

Number of Sample.	Water.	Solids.	Petrol. Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
44138 ...	34.75	65.25	1.10	19.90	9.78	6.160	0.812	3.066	2.282	0.76	0.18
47886 ...	34.10	65.90	1.15	19.39	9.33	5.852	0.840	2.534	2.478	0.54	0.26
40833 ...	35.00	65.00	1.25	19.21	9.19	6.048	0.840	2.828	2.380	0.64	0.23
49114 ...	34.10	65.90	1.00	19.69	9.45	5.740	0.840	2.548	2.352	0.62	0.30
44136 ...	34.70	65.30	1.30	19.30	9.28	5.964	0.994	2.478	2.492	0.50	0.44
49360 ...	34.90	65.10	1.30	19.65	9.65	6.244	1.000	2.752	2.492	0.50	0.46
47864 ...	33.30	66.70	1.15	20.20	9.82	5.992	0.728	2.772	2.492	0.62	0.32
Mean...	34.40	65.60	1.17	19.62	9.50	6.000	0.865	2.711	2.424	0.63	0.31

A Fluid Meat Extract. Fat, ash and salt are slightly too high. Otherwise meets standard requirements.

PORTRAIT BRAND EXTRACT.

Number of Sample.	Water.	Solids.	Petrol. Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
40835 ...	19.55	80.45	0.95	28.30	12.20	8.960	0.252	3.598	5.110	2.32	0.70

Sold as (normal) Meat Extract. Slight excess of ash; otherwise meets all requirements.

RAMONIE.

Number of Sample.	Water.	Solids.	Petrol. Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
37373 ...	17.33	82.67	0.70	22.80	4.37	8.962	0.261	3.925	4.774	2.32	1.16
37374 ...	17.70	82.30	0.90	23.15	5.05	8.840	0.350	3.632	4.858	2.32	0.70
37376 ...	17.05	82.95	0.55	23.25	4.52	8.960	0.335	3.641	4.984	2.12	1.47
37377 ...	17.85	82.15	0.80	22.75	5.21	9.268	0.364	1.116	1.752	0.62	2.15
Mean.	17.48	82.52	0.75	22.98	4.79	9.007	0.327	3.829	4.851	1.84	1.17

Sold as (normal) Beef Extract. Meets requirements of the standard.

RED CROSS EXTRACT.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as					Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt by Tannin Salt.	Tannin Salt Filtrate. (Meat bases).			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
39054. ...	37.70	62.30	1.15	18.19	7.62	7.280	2.128	3.890	1.260	0.10	0.04	
40832. ...	42.00	58.00	1.25	17.83	7.89	5.292	1.505	2.457	1.330	0.40	0.32	
39055. ...	55.60	44.40	1.15	19.00	8.13	4.592	1.652	2.173	0.707	0.15	0.07	

NOTE.—Three different grades.

Fluid Meat Extracts, sold as different grades. In all the fat and ash are slightly too high; and meat base nitrogen too low. Kreatin and Kreatinin are low, except in No. 40832.

VIGORAL EXTRACT.

Number of Sample.	Water.	Solids.	Petrolie Ether Ex-tract.	Ash.	Sodium Chloride.	Nitrogen as				Kreatinin.	Kreatin.
						Total.	Insoluble.	Ppt by Tannin Salt.	Tannin Salt Filtrate. (Meat bases).		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
48605. ...	50.70	49.30	0.35	14.60	8.20	4.032	0.350	1.288	2.394	0.60	0.20
49112. ...	50.80	49.20	0.25	15.23	8.60	3.808	0.448	1.330	2.030	0.58	0.21
49631. ...	52.20	47.80	0.30	15.40	8.33	3.752	0.175	1.673	1.904	0.36	0.16
Mean.	51.23	48.77	0.30	15.07	8.37	3.864	0.324	1.431	2.109	0.51	0.19

A Fluid Meat Extract. Total solids slightly below standard; ash and salt slightly high. Otherwise practically meets requirements.

VIMBOS-CUBES.

Number of Sample.	Water.	Solids.	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as					Creatinin.	Creatin.
						Total.	Insoluble.	Ppt by Tannin Salt.	Tannin Salt Filtrate, (Meat Base).			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
47014. . .	7.40	92.60	1.70	34.75	19.36	6.860	2.625	1.953	2.282	0.57	0.33	

A solid meat extract. Perhaps the standards for normal meat extract should not apply. Ash, salt and fat are decidedly higher than these standards permit. Total nitrogen nearly meets standard requirements; meat base nitrogen is somewhat low.

VIMBOS EXTRACT.

Number of Sample.	Nitrogen as										
	Water.	Solids.	Petrole Ether Ex-tract.	Ash.	Sodium Chloride.	Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat Bases).	L-cystinin.	Kreatin.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
44139. . .	33.02	66.98	0.65	17.05	8.27	7.610	1.180	4.819	1.631	0.57	0.28
45618. . .	33.22	66.78	0.55	17.24	8.33	7.509	1.160	4.790	1.550	0.70	0.23
50140. . .	33.00	67.00	0.55	17.80	8.51	7.550	1.100	4.862	1.568	0.68	0.28
49110. . .	33.12	66.88	0.60	17.12	8.10	7.220	1.130	4.620	1.470	0.59	0.53
46157. . .	32.22	67.78	0.60	17.90	8.12	7.220	1.300	4.400	1.520	0.57	0.14
44140. . .	32.40	67.60	0.65	17.00	7.48	7.420	1.510	4.286	1.624	0.62	0.30
48604. . .	32.97	67.03	0.50	17.00	7.48	7.080	1.580	3.820	1.680	0.48	0.51
49005. . .	33.00	67.00	0.75	17.45	8.99	7.280	1.393	4.267	1.621	0.76	0.04
Mean	32.87	67.13	0.60	17.32	7.98	7.357	1.294	4.480	1.583	0.60	0.29

A Fluid Meat Extract. Meets standards except in meat base nitrogen, which is decidedly low.

BULLETIN No. 267—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of Opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF NOVA SCOTIA—

1912.								
Feb.	9 Meat Extract.	47011	P. H. Holdsworth, Digby, N.S.	3 tins.	30	Oxo Co., London, Eng.	Mfrs.	
"	16 "	47012	Nat. Drug & Chem. Co., Digby, N.S.	3 "	125	Leibigs, London, Eng.	"	
"	16 "	47013	" " "	3 ozs.	50	Bovril Ltd., London, Eng.	"	
"	19 "	47014	J. McD. Taylor, Digby, N.S.	3 pkgs.	30	Bovril Ltd., Montreal.	A. B. Mitchell, Halifax, N.S.	
"	29 "	47015	S. A. Rounsefell, Lunenburg, N.S.	1 "	25	Oxo Co., London, Eng.	Mfrs.	

DISTRICT OF PRINCE EDWARD ISLAND—

Feb.	6 Meat Extract.	46156	J. G. Jamieson, Ch'town., P.E.I.	3 pkgs.	105	Leibigs Ltd., London, Eng.		
"	6 "	46157	Apothecaries Hall Co., Charlottetown, P.E.I.	3 "	105	Bovril Ltd., Montreal.		
"	7 "	46158	Stewart & Son, Charlottetown, P.E.I.	3 "	100		Corneille, David & Co., Toronto.	
"	7 "	46159	Beer & Goff, Charlottetown, P.E.I.	3 "	90	Alpin & Barrett, Yeovil, England.		
"	9 "	46160	John McKenna, Ch'town., P.E.I.	3 "	105	Armours Ltd., Toronto.		

DISTRICT OF NEW BRUNSWICK—

Feb.	6 Meat Extract.	45616	H. W. Cole, Ltd., St. John, N.B.	3 tins.	30	Oxo, London, Eng.	Oxo	
"	6 "	45617	Pidgeon & Co., St. John, N.B.	3 pkgs.	75	Armours Ltd., Toronto.	Armours	
"	14 "	45618	Nat. Drug & Chem. Co., St. John, N.B.	3 tins.	82	Bovril Ltd., Montreal.	Vimbo.	
"	14 "	45619	" " "	3 jars.	50	"	Bovril	
"	13 "	45620	Fairweather Bros., Moncton, N.B.	3 pkgs.	75	Nat. Drug & Chem. Co. of Canada.	Extract of Be-f.	

MEAT EXTRACTS.

Results of Analysis.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
Water.	Solids.	Petrolie Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as						
					Total.	Insoluble.	Ppt. by Tan- nin Salt.	Tannin Salt Filtrate. (Meat bases)	Kreatinin.			Kreatin.

R. J. WAUGH, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
11 00	89 00	3 00	34 55	25 07	7 672	1 631	3 437	2 604	0 67	0 38	47011	Cubes. Ash and salt too high. Fat too high.	
24 40	75 60	0 50	18 20	3 07	10 388	0 434	5 096	4 858	0 72	1 47	47012		
45 52	54 48	0 55	14 98	8 60	5 432	1 015	2 401	2 016	0 54	0 26	47013	Fluid Meat Extract.	
7 40	92 60	1 70	34 75	19 36	6 860	2 625	1 953	2 282	0 57	0 33	47014	Solid Extract: Cubes. Ash and salt too high. Fat too high. Total nitrogen low.	
11 15	88 85	3 35	34 90	26 50	7 280	1 628	3 328	2 324	0 53	0 55	47015	Cubes. Ash and salt too high. Fat too high.	

WM. A. WEEKS, INSPECTOR.

24 80	75 20	0 55	18 00	3 05	10 640	0 364	5 264	5 012	0 70	1 50	46156	
32 22	67 78	0 60	17 90	6 72	7 220	1 300	4 400	1 520	0 57	0 14	46157	Fluid Meat Extract.
10 65	89 35	3 70	34 05	24 87	7 672	1 652	3 486	2 604	0 67	0 45	46158	Cubes. Ash and salt too high. Fat too high.
9 25	90 75	4 45	53 65	23 93	2 996	0 133	0 973	1 890	0 33	0 11	46159	Solid Extract: Cubes. Ash and salt much too high. Fat too high. Nitrogen too low. Contains vegetables by acknowledgement.
22 40	77 60	1 00	19 20	4 91	8 540	0 189	4 389	3 962	0 70	0 60	46160	

J. C. FERGUSON, INSPECTOR.

10 10	88 90	3 25	33 50	25 27	7 476	1 603	3 283	2 590	0 59	0 56	45616	Cubes. Ash and salt too high. Fat too high.
21 65	78 35	1 00	19 40	4 49	8 764	0 322	4 536	3 906	0 81	0 42	45617	
33 22	66 78	0 55	17 24	8 33	7 500	1 160	4 790	1 550	0 70	0 23	45618	Fluid Meat Extract.
44 23	58 77	0 55	14 96	8 61	5 152	1 078	2 072	2 002	0 56	0 39	45619	" "
24 20	75 80	0 50	22 40	13 69	7 000	0 125	4 453	2 422	0 18	0 15	45620	

BULLETIN No. 267—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cont.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of Opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	
DISTRICT OF QUEBEC—								
1912.								
Feb.	5 Meat Extract	37373	V. Giroux, 16 Rue St. Pierre, Quebec.	3 pkgs.	150	Australian Meat Co.	Watt, Scott & Goodacer.	
"	5 "	37374	Dr. Ed. Morin, 113 Cote Lamontagne, Quebec.	3 "	105	"	"	
"	5 "	37375	Laroche Co., 4 Rue La Fabrique, Quebec.	3 "	240	Leibigs, London, Eng.	Lon-Lyman's Ltd.	
"	5 "	37376	J. E. Ilvernois, St. Jean & Bouvillard, Quebec.	3 "	75	Australian Meat Co.	Mfrs.	
"	5 "	37377	F. C. Lachevrotiere, 224 Rue St. Jean.	3 "	120	"	W. Brunet & cie, Quebec.	

DISTRICT OF ST. HYACINTHE—

Feb.	20 Meat Extract.	39052	Ed. Leblanc, St. Jean	3 tins.	135	American Fluid Beef Co.		
"	21 "	39053	Alb. Pratte, Magog	3 "	75	Bovril Ltd., London.		
"	21 "	39054	Nap. Hamel, Magog	3 "	100	Colonial Fluid Beef Co., Montreal.		
"	27 "	39055	Jos. Picard, St. Guillaume.	3 "	300	"		
Mar.	6 "	39056	Neal Bros., Waterloo	3 "	45		From stock of A.C. Gilmore, Waterloo.	

DISTRICT OF MONTREAL—

Feb.	16 Meat Extract.	40831	Bovril Ltd., Montreal	3 bots.	70	Vendors		Bovril.
"	16 "	40832	Colonial Fluid Beef & Specialty Co., Montreal.	3 "	45	"		Red Cross.
"	16 "	40833	B. Fox, 168 St. Lawrence Boulevard, Montreal.	3 "	75			Oxo.
"	16 "	40834	B. Kain, 395 St. Lawrence Boulevard, Montreal.	3 "	75	Armour's Ltd., Toronto.		
"	16 "	40835	L. O. D'Argencourt, 379 St. Denis St., Montreal.	3 "	105			Leibigs.

MEAT EXTRACTS.

Results of Analysis.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
Water.	Solids.	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as						
					Total.	Insoluble.	Ppt. by Tan- nin Salt.	Tannin Salt Filtrate. (Meat bases)	Kreatinin.			Kreatin.

F. X. W. E. BELAND, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	
17.33	82.67	0.70	22.80	4.37	8.962	0.261	3.925	4.774	2.32	1.16	37373	
17.70	82.30	0.90	23.15	5.05	8.840	0.350	3.632	4.858	2.32	0.70	37371	
24.20	75.80	0.36	18.70	2.74	10.360	0.392	4.942	5.026	0.75	1.76	37375	
17.05	82.95	0.55	23.25	4.52	8.960	0.335	3.641	4.984	2.12	1.47	37376	
17.85	82.15	0.85	22.75	5.21	9.268	0.364	4.116	4.788	0.62	2.15	37377	

J. C. ROULEAU, INSPECTOR.

45.90	54.10	1.00	14.10	18.12	5.488	1.764	2.384	1.340	0.45	0.13	39052	Fluid Meat Extract. Salt too high.
40.75	59.25	0.65	15.23	8.63	5.208	0.994	2.310	1.904	0.73	0.16	39053	" "
37.70	62.30	1.15	18.19	7.62	7.280	2.128	3.890	1.260	0.10	0.04	39054	" "
55.60	44.40	1.15	19.00	8.13	4.592	1.652	2.173	0.767	0.13	0.07	39055	" "
40.75	59.25	1.50	22.60	6.70	2.968	0.378	2.666	0.924	0.33	0.14	39056	Solids too low. Fluid Meat Extract. Fat too high. Nitrogen too low.

J. J. COSTIGAN, INSPECTOR.

41.24	58.76	0.95	14.35	8.83	5.348	1.155	2.193	2.000	0.62	0.44	40831	Fluid Meat Extract.
42.00	58.00	1.25	17.83	7.89	5.292	1.505	2.457	1.330	0.40	0.32	40832	" "
35.00	65.00	1.25	19.21	9.19	6.048	0.840	2.828	2.380	0.64	0.23	40833	" "
21.75	78.25	0.75	19.76	5.19	8.764	0.273	4.557	3.934	0.78	0.48	40834	
19.55	80.45	0.95	28.30	12.20	8.960	0.252	3.508	5.110	2.32	0.70	40835	

BULLETIN No. 267—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of Opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	
DISTRICT OF OTTAWA—								
1912.								
Feb. 12	Meat Extract.	50136	Ellis Bros., Somerset St., Ottawa.	3 jars.	75	Armour's Ltd., Toronto.	Mfrs.	Armour's. Made from finest quality of fresh beef.
" 12	"	50137	Wm. York, Somerset St., Ottawa.	3 box's	30	.....	Corneille Davis & Co., Toronto.	Oxo Cubes....
" 12	"	50138	T. Bowman, Somerset St., Ottawa.	3 bots	75	Bovril Ltd., London, Eng.	F. J. Castle & Co., Ottawa	Bovril.....
" 19	"	50139	Jos. P. Valiquette, Dalhousie St., Ottawa.	3 tins.	75	E. S. Burnham Co., New York.	S. J. Major, Ltd., Ottawa	Bovril Highly concentrated extract of meat and vegetables.
" 20	"	50140	Bryson Graham, Ltd. Ottawa.	3 "	69	Bovril Ltd., Montreal.	Mfrs.....	Johnston's Fluid Beef.

DISTRICT OF KINGSTON—

Feb. 5	Meat Extract.	49536	H. M. Stover, Kingston.	3 pkgs	75	Armour's, Toronto.	.....	.....
" 5	"	49537	W. J. Arnill, Kingston.	3 "	75	Bovril, London	.....	.....
" 7	"	49538	W. D. Stephens, Port Hope.	3 "	75	Armour's, Toronto.	.....	.....
" 8	"	49539	J. E. Lillico, Peterboro.	3 "	60	Bovril..	.....	.....
" 8	"	49540	A. Pearson, Peterboro.	3 "	105	"	.....	.....

DISTRICT OF TORONTO—

Feb. 7	Meat Extract	49357	Geo. Harding, 227 King St., Hamilton.	3 bots.	60	Bovril Ltd., London.	.....	Bovril.....
" 17	"	49358	The Wm. Davies Co., Ltd., 521 Queen St. east, Toronto.	3 pkgs	30	Vendors	.....	Solid Beef Extract.
" 17	"	49359	J. E. Sweet, 481 Queen St., east, Toronto.	3 "	60	.....	Unknown	Bovril.
" 20	"	49360	J. A. Armour, Owen Sound.	3 bots.	60	.....	Corneille David & Co., Toronto.	Oxo
" 25	"	49361	F. T. Higgins, 808 Queen St. east, Toronto.	pkgs.	30	.....	Wenen Bros., Toronto.	Oxo cubes

MEAT EXTRACTS.

Results of Analysis.											No. of Sample.	Remarks and Opinion of the Chief Analyst.
Water.	Solids	Petroleum Ether Extract.	Ash.	Sodium Chloride.	Total.	Insoluble.	Ppt. by Tan- nin Salt.	Tannin Salt Filtrate. (Meat bases)	Kreatinin.	Kreatin.		

J. A. RICKEY, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
21.00	79.00	0.85	19.40	5.28	8.596	0.308	4.480	3.808	0.57	0.62	50136		
11.95	88.03	3.55	34.80	24.88	7.924	1.624	3.794	2.506	0.62	0.32	50137	50138	Cubes. Ash and salt too high. Fat too high.
43.10	56.90	0.65	15.33	9.11	5.376	1.106	2.212	2.058	0.64	0.23	50138		Fluid Meat Extract.
7.00	93.00	2.60	43.70	19.63	3.324	0.105	1.469	1.750	0.21	0.18	50139	50140	Meat and vegetables, cubes. Ash and salt too high. Fat too high. Nitrogen too low. Contains vegetables by acknowledgment.
33.00	67.00	0.55	17.80	8.51	7.530	1.100	4.862	1.568	0.68	0.28	50140		Fluid Meat Extract.

JAS. HOGAN, INSPECTOR.

21.50	78.50	1.05	19.30	5.72	8.428	0.203	4.585	3.640	0.65	0.68	49536	Fluid Meat Extract.
45.15	54.85	1.05	14.90	8.35	5.040	1.085	2.135	1.820	0.67	0.38	49537	
24.30	75.70	1.10	19.00	4.93	8.456	0.231	4.725	3.500	0.73	0.71	49538	Fluid Meat Extract.
41.90	58.10	0.75	14.48	8.90	5.040	1.099	2.009	1.932	0.64	0.30	49539	
44.95	55.05	1.00	15.20	8.88	5.572	1.057	2.639	1.876	0.57	0.36	49540	" "

H. J. DAGER, INSPECTOR.

45.15	54.85	0.95	14.63	8.44	5.208	1.085	2.279	1.834	0.54	0.30	49357	Fluid Meat Extract.	
20.80	79.20	0.25	15.12	8.32	9.184	0.196	5.088	4.900	1.30	0.80	49358		
41.05	58.95	1.05	15.15	9.10	5.404	1.067	2.401	1.946	0.54	0.36	49359	Fluid Meat Extract.	
34.90	65.10	1.30	19.65	9.65	6.244	1.060	2.752	2.492	0.50	0.46	49360	" " Fat too high.	
11.10	88.90	2.90	35.05	25.77	7.868	1.778	3.514	2.576	0.57	0.38	49361	Cubes. Ash and salt too high. Fat too high.	

BULLETIN No. 267—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of Opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF LONDON—								
1912.								
Feb. 19	Meat Extract.	47884	W. S. Cole, Exeter.	3 pkgs	75	Nat. Drug Co.		Nat. Drug Co. Brand.
" 19	"	47886	W. S. Howey, Exeter.	3 "	75	Leibigs Co., London, Eng.		
" 20	"	47892	W. S. R. Holmes, Clinton.	3 "	75	Bovril Ltd., London, Eng.		
" 20	"	47893	J. E. Hovey, Clinton.	3 "	75	Armour's Ltd., Toronto.		Armour's.
" 20	"	48202	W. A. McConnell, Clinton.	3 "	75	Leibigs Co., London, Eng.		Oxo cubes.

DISTRICT OF WINDSOR—								
Feb. 9	Meat Extract.	47864	Anderson & Nelles, London.	3 pkgs	75	Leibig Oxo Co., London, Eng.		Oxo
" 6	"	48079	John Diprose, London.	3 jars.	60	Bovril Ltd., J. S. Johnstone.		
" 7	"	48087	Thos. Shaw, London, east.	3 pkgs	30	Oxo, London, Eng.		
" 8	"	48098	Taylor Drug Co., London.	3 "	75	Nat. Drug Co.		
" 9	"	48100	W. T. Strong, London.	3 jars.	75	Armour's Co., Ltd., Toronto.		

DISTRICT OF MANITOBA—								
Feb. 20	Meat Extract.	48601	A. Macdonald & Co., Portage Ave., Winnipeg.	3 pkgs	105	Bovril Ltd, England.		
" 20	"	48602	" " "	3 "	30	" " "		Oxo
" 21	"	48603	H. E. Weldon & Co., Portage Ave., Winnipeg.	3 "	105	Leibigs Ltd., London.		
" 21	"	48604	The Codville Co., Winnipeg.	3 "	82	Johnston's Fluid Beef.		
" 21	"	48605	" " "	3 "	75	Armour & Co., Chicago.		Vigoral.

DISTRICT OF CALGARY—								
Mar. 6	Meat Extract.	44136	Capital Mercantile Co., Edmonton.	3 bots	100	Leibigs Co., Ltd., London Eng.		
" 7	"	44137	Hudson Bay Co., Edmonton.	3 "	160	Bovril Ltd., London, Eng.		
" 7	"	44138	Acme Co., Edmonton.	3 "	100	Leibigs Co., Ltd., London Eng.		
" 8	"	44139	Hallier & Aldridge, Edmonton.	3 tins.	150	Bovril Ltd., Montreal.		
" 8	"	44140	J. H. Morris & Co., Ltd., Edmonton.	3 pots	100	" " "		

MEAT EXTRACTS.

MEAT EXTRACTS.											
Results of Analysis.											
Water.	Solids.	Petrole Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as					No. of Sample.	Remarks and Opinion of the Chief Analyst.
					Total.	Insoluble.	Ppt. by Tan- nin Salt.	Tannin Salt Filtrate. (Meat bases)	Kreatinin.			Kreatin.

JNO. TALBOT, ACTING INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
24 15	75 85	0 75	21 90	13 70	6 692	0 441	3 661	2 590	0 17	0 05	47884		
31 10	65 90	1 15	19 39	9 33	5 852	0 840	2 531	2 478	0 54	0 26	47886	Fluid Meat Extract.	
45 45	54 55	0 90	15 45	9 30	5 544	1 092	2 492	1 960	0 53	0 27	47892	"	"
23 30	76 70	0 65	20 50	5 11	8 792	0 202	4 726	3 864	0 67	0 33	47896		
10 75	89 25	3 50	35 05	25 62	7 430	1 589	3 311	2 520	0 70	0 34	48202	Cubes. Ash and salt too high. Fat too high.	

JNO. TALBOT, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
33 30	66 70	1 15	20 20	9 82	5 992	0 728	2 772	2 492	0 62	0 32	47864	Fluid Meat Extract.	
45 25	54 75	0 75	14 18	9 00	5 460	1 029	2 457	1 974	0 61	0 11	48079	"	"
10 45	89 55	3 45	35 05	24 43	7 616	1 610	3 546	2 660	0 07	0 38	48087	Cubes. Ash and salt too high. Fat too high.	
24 05	75 95	1 20	22 01	13 88	6 524	0 326	3 632	2 576	0 20	0 00	48098		
23 90	76 10	1 00	19 30	5 23	8 761	0 266	4 896	3 612	0 62	0 61	48100		

A. C. LARIVIÈRE, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
40 25	59 75	0 75	14 36	8 71	5 124	1 008	2 156	1 960	0 57	0 49	48601	Fluid Meat Extract.	
12 05	87 95	3 85	35 20	24 74	7 476	1 582	3 612	2 282	0 70	0 44	48602	Cubes. Ash and salt too high. Fat too high.	
24 50	73 50	0 85	18 50	2 68	9 884	0 402	4 610	4 872	0 72	1 37	48603		
32 97	67 03	0 50	17 00	7 48	7 080	1 580	3 820	1 680	0 48	0 51	48604	Fluid Meat Extract.	
50 70	49 30	0 35	14 60	8 20	4 032	0 350	1 288	2 394	0 60	0 20	48605	"	"

R. W. FLETCHER, INSPECTOR.

p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.		
34 70	65 30	1 30	19 30	9 28	5 964	0 994	2 478	2 492	0 50	0 44	44136	Fluid Meat Extract. Fat too high.	
41 75	55 25	1 00	14 99	8 39	5 628	1 036	2 632	1 960	0 62	0 27	44137	"	"
34 75	65 25	1 10	19 90	9 78	6 180	0 812	3 066	2 282	0 76	0 18	44138	"	"
33 02	66 98	0 65	17 05	8 27	7 610	1 180	4 819	1 631	0 57	0 26	44139	"	"
32 40	67 60	0 65	17 00	7 48	7 420	1 510	4 286	1 624	0 62	0 30	44140	"	"

BULLETIN No. 267—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of Opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF NELSON—

1912.								
Feb. 13	Meat Extract.	48488	Mallory Drug Co., Kamloops, B.C.	3 pots	150	Nat. Drug Co. Montreal.		
" 13	"	49605	Stevens & Allan, Kamloops, B.C.	3 cans	150	Bovril Ltd., Montreal.		
" 13	"	49615	Wilson Grocery Co., Kamloops, B.C.	3 jars.	120	Bovril Ltd., London.		
" 20	"	49267	J. J. Ling & Co., Ashcroft, B.C.	3 tins.	105	Armour Co., Chicago.		
" 26	"	49631	Canada Drug & Book Co., Nelson, B.C.	3 bots	105	"		

DISTRICT OF VANCOUVER—

Feb. 21	Meat Extract.	38310	Hudson's Bay Co., Vancouver.	3 jars.	180	Brand & Co., London, Eng		Consists of the juice of the finest beef.
" 21	"	38311	London Grocery Co., Ltd., Vancouver.	3 "	75	Bovril Ltd., London, Eng		A combination of the Extractives of the Albumen and fibrin of beef. Absolutely pure.
" 21	"	38312	Woodward Dept. Stores, Vancouver.	3 "	75	Am. Fluid Beef Co., Montreal		Contains the fibrine and Albumenoids of prime beef
" 21	"	38313	H. A. Edgett Co., Ltd., Vancouver.	3 "	75	Armour Ltd., Toronto.		Made only from the finest quality of fresh beef.
" 21	"	38314	David Spencer Ltd., Vancouver.	3 "	45	Northland Mfg., Co., Toronto.		Nutri-Ox Concentrated fluid beef.

DISTRICT OF VICTORIA—

Feb. 27	Meat Extract.	49110	Windsor Grocery Co., Victoria, B.C.	3 pkgs	150	Bovril Ltd., Montreal.		Johnston's Fluid Beef.
" 28	"	49111	The West End Grocery Co., Ltd., Victoria, B.C.	3 "	75	Armour Ltd., Toronto.		Armour's.....
" 29	"	49112	D. H. Ross & Co., Victoria, B.C.	3 "	75	Armour & Co., Chicago.		Vigoral.....
Mar. 1	"	49113	Capas & Young, Victoria, B.C.	3 "	60	Bovril Ltd., London, Eng		Bovril.....
" 1	"	49114	Wm. B. Hall, Victoria, B.C.	3 "	90	Leibigs Co., London, Eng		Oxo.....

MEAT EXTRACTS.

Results of Analysis.													No. of Sample.	Remarks and Opinion of the Chief Analyst.
Water.	Solids.	Petrolic Ether Extract.	Ash.	Sodium Chloride.	Nitrogen as						Kreatinin.			
					Total.	Insoluble.	Ppt. by Tannin Salt.	Tannin Salt Filtrate. (Meat bases)	Kreatinin.					
THOS. PARKER, INSPECTOR.														
p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.	p. c.			
25.90	74.10	0.40	22.75	14.09	7.224	0.658	4.466	2.100	0.13	0.15	48488			
33.00	67.00	0.75	17.45	8.99	7.280	1.393	4.267	1.620	0.76	0.04	49605	Fluid Meat Extract.		
44.70	55.30	0.85	15.30	8.90	5.628	1.090	2.498	2.040	0.76	0.28	49615	" "		
22.25	77.75	0.90	20.55	5.58	8.484	0.364	4.480	3.640	0.65	0.55	49627			
52.20	47.80	0.30	15.40	8.33	3.752	0.175	1.673	1.904	0.36	0.16	49631	Fluid Meat Extract. Solids slightly low.		
J. F. POWER, INSPECTOR.														
90.30	9.70	0.90	1.40	0.98	1.652	0.044	0.343	1.265	tr'ce	tr'ce	38310	Meat juice.		
43.15	56.85	0.60	14.40	8.34	5.152	1.001	1.897	2.254	0.60	0.23	38311	Fluid Meat Extract.		
45.25	54.75	1.35	14.62	8.39	5.684	1.361	3.021	1.302	0.53	0.10	38312	Fluid Meat Extract. Fat too high.		
23.50	76.50	1.05	20.30	5.32	8.260	0.399	4.194	3.667	0.63	0.60	38313			
45.35	55.65	2.35	16.30	9.69	4.340	0.546	1.302	2.492	0.50	0.22	38314	Fluid Meat Extract. Fat too high.		
D. O'SULLIVAN, INSPECTOR.														
33.12	66.88	0.60	17.12	8.10	7.220	1.130	4.620	1.470	0.59	0.53	49110	Fluid Meat Extract.		
21.35	78.65	0.75	19.80	5.19	8.204	0.315	4.501	3.388	0.60	0.74	49111			
50.80	49.20	0.25	15.23	8.60	3.808	0.448	1.330	2.030	0.58	0.21	49112	Fluid Meat Extract.		
43.00	57.00	0.80	15.67	9.15	5.656	1.085	2.550	2.021	0.64	0.24	49113	" "		
34.10	65.90	1.00	19.69	9.45	5.740	0.840	2.548	2.352	0.62	0.30	48114	" "		